INVENTORS

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File 347:JAPIO Dec 1976-2010/Apr(Updated 100726)
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File 350:Derwent WPIX 1963-2010/UD=201047
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File 155:MEDLINE(R) 1950-2010/Jul 29
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File 136:BioEngineering Abstracts 1966-2007/Jan
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File  24:CSA Life Sciences Abstracts 1966-2010/Jul
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File 399:CA SEARCH(R) 1967-2010/UD=15305
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File  74:Int.Pharm.Abs 1970-2010/Jul B1
         (c) 2010 The Thomson Corporation
File 129:PHIND(Archival) 1980-2010/Jul W4
         (c) 2010 Informa UK Ltd
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? **ds**

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Set     Items   Description
S1        334   AU=AYERS R?
S2        530   AU=AYERS, R?
S3        327   AU=SIMSKE S?
S4        396   AU=SIMSKE, S?
S5      31972   AU=MOORE J?
S6      24149   AU=MOORE, J?
S7       4352   AU=CASTILLO M?
S8       1490   AU=CASTILLO, M?
S9         10   AU=GOTTOLI G?
S10        51   AU=GOTTOLI, G?
S11     61336   S1:S10
S12       326   S11 AND NET
S13         3   S12 AND TRICALCIUM
S14        12   S12 AND (ALPHA OR BETA)
S15        14   S13 OR S14
S16         3   RD  (unique items)
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? t s16/3,k/1-3

Dialog eLink: Order File History
16/3,K/1 (Item 1 from file: 350)
DIALOG(R)File 350: Derwent WPIX

0014031119
WPI Acc no: 2004-213069/200420
Related WPI Acc No: 2002-546850; 2003-402807
XRAM Acc no: C2004-084471
XRPX Acc No: N2004-168757
Production of porous tricalcium phosphate net-shaped material, useful for orthopedic implants, involves forming reactant mixture comprising calcium oxide and phosphorus pentoxide into desired shape and heating
Patent Assignee: AYERS R A (AYER-I); CASTILLO M (CAST-I); GOTTOLI G (GOTT-I); MOORE J J (MOOR-I); SIMSKE S J (SIMS-I)
Inventor: **AYERS** R A; **CASTILLO M**; **GOTTOLI G**; **MOORE J J**; **SIMSKE S J**

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 20040019385	A1	20040129	US 2000234841	P	20000922	200420	B
			US 2001957829	A	20010921		
			US 2002199139	A	20020719		

			US 2003621752	A	20030716	

Priority Applications (no., kind, date): US 2000234841 P 20000922; US 2001957829 A 20010921; US 2002199139 A 20020719; US 2003621752 A 20030716

Patent Details						
Patent Number	**Kind**	**Lan**	**Pgs**	**Draw**	**Filing Notes**	
US 20040019385	A1	EN	17	7	Related to Provisional	US 2000234841
					Continuation of application	US 2001957829
					C-I-P of application	US 2002199139

Production of porous tricalcium phosphate net-shaped material, useful for orthopedic implants, involves forming reactant mixture comprising calcium oxide and phosphorus... Original Titles: Manufacture of porous **net**-shaped materials comprising **alpha** or **beta tricalcium** phosphate or mixtures thereof Inventor: **AYERS** R A... ...**CASTILLO M**... ...**GOTTOLI G**... ...**MOORE J J**... ...**SIMSKE S J Alerting Abstract** ...die is non-combustible. The mixture is heated above its ignition temperature to produce a **net**-shaped material by combustion synthesis reaction. ...the mole percent ratio of calcium oxide and phosphorus pentoxide allows the mixture to form **tricalcium** phosphate upon combustion. The reactant mixture is formed into desired shape by placing it into... ...is non-combustible. The reactant mixture is heated above its ignition temperature to produce a **net**-shaped material by combustion synthesis reaction. The material comprises **alpha**-**tricalcium** phosphate or a mixture of **alpha**- and **beta**-**tricalcium** phosphate ... ...An INDEPENDENT CLAIM is also included for porous **tricalcium** phosphate **net**-shaped material... ...ADVANTAGE - The method accurately controls material parameters of the **net**-shaped material for obtaining desired porosity surface chemistry and structural material modulus. The **net**-shaped material provides improved biocompatibility, mechanical stability and reduced stress. **Title Terms** .../Index Terms/Additional Words: **NET**; **Class Codes** Original Publication Data by AuthorityArgentina**Publication No.** Inventor name & address:**Ayers**, Reed A... ...**Simske, Steven J**... ...**Moore, John J**... ...**Castillo, Martin**... ...**Gottoli, Guglielmo Original Abstracts:**Methods for producing porous **tricalcium** phosphate **net**-shaped **material** are **provide**. The methods involve preparing a reactant mixture comprising calcium oxide and phosphorus pentoxide in a mole percent ratio that allows the mixture to form **tricalcium** phosphate upon combustion **thereof**, forming this mixture into a desired final shape in a die with compression, and carrying out a combustion synthesis therewith. **Net**-shaped TCP materials **of** the combustion synthesis, comprising **alpha tricalcium** phosphate or **mixtures of alpha** and **beta tricalcium phosphate**, are **optionally further** treated to effect transition of the **alpha** phase to the **beta** phase. The **net**-**shaped** TCP materials **can** have a uniform or non-uniform porosity. **Claims:**What is claimed is:**1**. A method of producing a porous **tricalcium** phosphate **net**-shaped material having an intended final **shape**, comprising:(**a**) preparing a reactant mixture comprising

calcium oxide and phosphorus pentoxide, wherein the mole percent ratio of said calcium oxide and said phosphorus pentoxide allows the reactant mixture to form **tricalcium** phosphate upon combustion;(b) forming said reactant mixture into said **intended** final shape by placing said mixture into a combustible or noncombustible die having said intended... ... formed reactant mixture to at least the ignition temperature of said mixture to produce a **net**-shaped material by a combustion synthesis reaction, said material comprising **alpha tricalcium** phosphate or a mixture **of alpha** and **beta tricalcium** phosphate; and(e) optionally subjecting said **net-shaped** material to conditions sufficient to **convert** at **least a** portion of said **alpha tricalcium** phosphate to **beta tricalcium** phosphate.

16/3,K/2 (Item 1 from file: 6)
DIALOG(R)File 6: NTIS

2422063 **NTIS Accession Number:** N20040053513/XAB
Effect of Gravity on Porous Tricalcium Phosphate and Nonstoichiometric Titanium Carbide Produced via Combustion Synthesis

Castillo, M. ; **Moore, J. J.** ; Schowengerdt, F. D. ; **Ayers, R. A.**
Colorado School of Mines, Golden.
Corporate Source Codes: 006683000
Sponsor: National Aeronautics and Space Administration, Washington, DC.

2004 4p
Language: English
Journal Announcement: USGRDR0818
Sponsored by National Aeronautics and Space Administration, Washington, DC.
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NTIS Prices: PC A01/MF A01
Effect of Gravity on Porous Tricalcium Phosphate and Nonstoichiometric Titanium Carbide Produced via Combustion Synthesis
Castillo, M. ; Moore, J. J. ; Schowengerdt, F. D. ; Ayers, R. A.
...are difficult to fabricate by other methods. This processing technique is also capable of near net shape synthesis, while variable gravity allows the manipulation of the structure and composition of the material. The creation of porous tricalcium phosphate (TCP) is advantageous in the biomaterials field, since it is both a biocompatible material and an osteoconductive material. Porous tricalcium phosphate produced via SHS is an excellent candidate for bone scaffold material in

the bone...
Descriptors:

16/3,K/3 (Item 1 from file: 35)
DIALOG(R)File 35: Dissertation Abs Online

01999822 ORDER NO: AADAA-I0806072
Combustion synthesis of porous tricalcium phosphate, titanium carbide, and nonstoichiometric titanium carbide

Author: Castillo, Martin
Degree: Ph.D.
Year: 2004
Corporate Source/Institution: Colorado School of Mines (0052)
Source: Volume 6502B of Dissertations Abstracts International.
PAGE 971 .
Combustion synthesis of porous tricalcium phosphate, titanium carbide, and nonstoichiometric titanium carbide
Author: Castillo, Martin

...of the research herein examines the self-propagating high temperature combustion synthesis (SHS) of porous tricalcium phosphate (TCP), titanium carbide, and nonstoichiometric titanium carbide. The emphasis of this research is twofold... ...are difficult to fabricate via other methods. This processing technique is also capable of near net shape synthesis, while variable gravity allows the manipulation of the microstructure of the material. Combustion ...

PATENTS & NPL ABSTRACTS

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File 347:JAPIO Dec 1976-2010/Apr(Updated 100726)
         (c) 2010 JPO & JAPIO
File 350:Derwent WPIX 1963-2010/UD=201048
         (c) 2010 Thomson Reuters
File 155:MEDLINE(R) 1950-2010/Jul 30
         (c) format only 2010 Dialog
File   5:Biosis Previews(R) 1926-2010/Jul W4
         (c) 2010 The Thomson Corporation
File 972:EMBASE 1947-2010/Aug 02
         (c) 2010 Elsevier B.V.
File   2:INSPEC 1898-2010/Jul W4
         (c) 2010 The IET
File   6:NTIS 1964-2010/Aug W1
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File  45:EMCare 2010/Jul W4
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         (c) 2007 CSA.
File 144:Pascal 1973-2010/Jul W4
         (c) 2010 INIST/CNRS
File  24:CSA Life Sciences Abstracts 1966-2010/Jul
         (c) 2010 CSA.
File  23:CSA Technology Research Database 1963-2010/May
         (c) 2010 CSA.
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         (c) 2010 FIZ TECHNIK
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         (c) 2010 American Chemical Society
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         (c) 2010 Thomson Reuters
File  71:ELSEVIER BIOBASE 1994-2010/Aug W1
         (c) 2010 Elsevier B.V.
File  74:Int.Pharm.Abs 1970-2010/Jul B1
         (c) 2010 The Thomson Corporation
File 129:PHIND(Archival) 1980-2010/Aug W1
         (c) 2010 Informa UK Ltd
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OR NON()WOVEN? OR NET()LIKE OR NETLIKE OR NETSHAP? OR NET()SHAP?
THREAD? OR STRAND? OR FILIFORM? OR FIBER? OR FIBR?)(4N)(FORM? OR MOLD?
OR SHAPE? OR SHAPING OR EXTRUDE? OR RESHAPE? ? OR RESHAPING OR CONTOUR?
OR RECONTOUR? OR CONFIGURE? OR RECONFIGURE? OR PATTERN? OR REPATTERN?
OR DESIGN? OR REDESIGN?)
S2     101273   (ALPHA OR BETA)(2N)(TRICALCIUM()PHOSPHATE?) OR
TRIBASIC()CALCIUM()PHOSPHATE? OR BONE()ASH OR TRICALCIUM()DIPHOSPHATE?
OR TCP
S3     185132   CALCIUM()OXIDE OR CAO OR QUICKLIME?
S4      20786   PHOSPHORUS()PENTOXIDE?  OR PHOSPHORUS()OXIDE? OR
PHOSPHORIC()ANHYDRIDE?
S5     980768   (ORTHOPEDIC? OR DENTAL? OR BONE OR SPINAL OR SPINE OR
LUMBAR OR BACKBONE OR COSMETIC?)(5N)(APPLICATION? OR RESTORATIVE? OR
RECONSTRUCTIVE? OR REPLACEMENT? OR REMODEL? OR REPAIR? OR SURGERY OR
BIOMATERIAL?)
S6       1129   S1 AND S2
S7       2216   S1 AND S3
S8        307   S1 AND S4
S9         23   S6 AND S7
S10         3   S6 AND S8
S11       175   S6 AND S5
S12        74   S7 AND S5
S13        18   S8 AND S5
S14         7   S11 AND S12
S15        39   S9 OR S10 OR S13 OR S14
S16        27   RD  (unique items)
S17        14   S16 NOT PY>2003
S18      1048   S2 AND S3
S19        39   S18 AND S4
S20        23   S18 AND S1
S21         3   S19 AND S20
S22        15   S19 AND S5
S23         7   S20 AND S5
S24        21   S21:S23
S25        18   RD  (unique items)
S26         8   S25 NOT PY>2003
S27        22   S17 OR S26
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? t s27/3,k/1-22

Dialog eLink: Order File History

27/3,K/1 (Item 1 from file: 347)
DIALOG(R)File 347: JAPIO

01927541 **HIGH-STRENGTH CRYSTALLIZED GLASS CONTAINING BOTH BETA- TRICALCIUM PHOSPHATE CRYSTAL AND ANORTHITE CRYSTAL AND PRODUCTION THEREOF**

Pub. No.: 61-141641 [JP 61141641 A]
Published: June 28, 1986 (19860628)
Inventor: KASUGA TOSHIHIRO
NAKAGAWA KENJI
Applicant: HOYA CORP [330074] (A Japanese Company or Corporation), JP (Japan)
Application No.: 59-260037 [JP 84260037]
Filed: December 11, 1984 (19841211)
Journal: Section: C, Section No. 384, Vol. 10, No. 335, Pg. 138, November 13, 1986 (19861113)
Image available

HIGH-STRENGTH CRYSTALLIZED GLASS CONTAINING BOTH BETA-TRICALCIUM PHOSPHATE CRYSTAL AND ANORTHITE CRYSTAL AND PRODUCTION THEREOF

ABSTRACT

...an implantation material, by heat-treating crystal glass for a material of body comprising MgO, **CaO**, SiO(sub 2), P(sub 2)O(sub 5), and Al(sub 2)O(sub... ...CONSTITUTION: Glass having a composition comprising >=90wt% total amounts of 8-26wt% MgO, 18-43wt% **CaO**, 25-40wt% SiO(sub 2), 10-25wt% P(sub 2)O(sub 5), and 10... ...5), and 0-10wt% Ta(sub 2)O(sub 5) is produced, ground into <=200 **meshes** once, **molded** into a desired shape, and calcined. The glass is heat-treated at 1,000-1,100 deg.C, and .**beta**.- **tricalcium phosphate** crystal, anorthite crystal, and one or more crystals of diposide, forsterite, and akermanite are precipitated... Di01

27/3,K/2 (Item 1 from file: 350)
DIALOG(R)File 350: Derwent WPIX

0013425970 *Drawing available*
WPI Acc no: 2003-516782/200349
XRAM Acc no: C2003-139301
XRPX Acc No: N2003-409763

Implant material used as artificial bone supplementation material, is equipped with porous material and skin layer which when irradiated with X-ray at preset condition, shows X-ray diffraction peak with preset half peak width

Patent Assignee: NGK SPARK PLUG CO LTD (NITS)
Inventor: HATTORI M; OKADA T; OKURA T; OTSUKA H

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
JP 2003062061	A	20030304	JP 2001252073	A	20010822	200349	B

Priority Applications (no., kind, date): JP 2001252073 A 20010822

Patent Details					
Patent Number	**Kind**	**Lan**	**Pgs**	**Draw**	**Filing Notes**
JP 2003062061	A	JA	10	3	

Alerting Abstract ... USE - As artificial bone supplementation material in medical specialties, such as **orthopedics**, plastic **surgery**, **brain surgery**, **oral** and **maxillofacial surgery**, and dentistry... **Extension Abstract** ...COMPOUNDS - The porous material consists of calcium-phosphate group compound which is hydroxyapatite and/or **tribasic calcium phosphate**. ... ...consisting of 5 mass% of calcium phosphate group glass-frit (90 mol% or more of **calcium oxide-phosphorus pentaoxide**) and hydroxyapatite powder having mean particle diameter of 0.6 mum. The obtained slurry was... ...of 200 mum. The crystal phase of the porous material surface was found to contain **tribasic calcium phosphate** and hydroxyapatite, by X-ray analysis. The porous material was immersed into a solution containing **Extension Abstract Image**

27/3,K/3 (Item 2 from file: 350)
DIALOG(R)File 350: Derwent WPIX

0013093161
WPI Acc no: 2003-174120/200317
Related WPI Acc No: 2004-096856; 2006-330007
XRAM Acc no: C2003-045451
XRPX Acc No: N2003-137062
Production of hard tissue scaffold used in bone repair and reconstruction comprises melting selected glass composition, controlling resorption rate of glass and forming fibers
Patent Assignee: JANAS V F (JANA-I); TENHUISEN K S (TENH-I)
Inventor: JANAS V F; TENHUISEN K S

Patent Family (1 patents, 1 countries)							
Patent Number	**Kind**	**Date**	**Application Number**	**Kind**	**Date**	**Update**	**Type**
US 20020139147	A1	20021003	US 2001772363	A	20010130	200317	B

Priority Applications (no., kind, date): US 2001772363 A 20010130

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
US 20020139147	A1	EN	7	0	

Production of hard tissue scaffold used in bone repair and reconstruction comprises melting selected glass composition, controlling resorption rate of glass and forming fibers Alerting Abstract ... melted state for a specific period to control the resorption rate of the glass, and **forming fibers.** ...USE - Used in biological **applications**, particularly as **bone** implants used in **bone repair** and reconstruction ... **Technology Focus** INORGANIC CHEMISTRY - Preferred Process: The process also includes **forming fiber** types from the same selected glass composition, with each fiber type having an associated resorption... ...upon an associated period in which the glass is held in the molten state. The **fiber** types are **formed** into a common textile structure having a predetermined spacial distribution of each fiber type. The process also includes combining a matrix material with the **fibers** to **form** a scaffold. The process also includes adding bone growth agents and a medicament to the... ...1-100 mum. The glass comprises a phosphate and includes calcium oxide, iron oxide and **phosphorus pentoxide** in a molar ratio of 16.5-33.5:16.5-33.5:50.0... **Extension Abstract** EXAMPLE - Reagent grades of calcium oxide, iron oxide and **phosphorus pentoxide** in a molar ratio of 16.5:33.5:50 were mixed and melted in ... Original Publication Data by AuthorityArgentina**Publication No.** ...**Claims:**state for a selected time to control the resorption rate of the glass; and (d) **forming** the glass into **fibers.**

27/3,K/4 (Item 3 from file: 350)
DIALOG(R)File 350: Derwent WPIX

0010914199
WPI Acc no: 2001-535543/200159
XRAM Acc no: C2001-159450
XRPX Acc No: N2001-397658
Making biocompatible, bioresorbable ceramic implant device useful as scaffolds to facilitate bone healing or replace defects of hard tissue, by impregnating an organic fabric with metal and phosphate ceramic precursors
Patent Assignee: ETHICON INC (ETHI); JANAS V F (JANA-I); TENHUISEN K S (TENH-I)
Inventor: JANAS V F; TENHUISEN K S

Patent Family (2 patents, 1 countries)							
Patent Number	**Kind**	**Date**	**Application Number**	**Kind**	**Date**	**Update**	**Type**
US 20010016353	A1	20010823	US 1999333231	A	19990614	200159	B

			US 2001819214	A	20010328		
US 6667049	B2	20031223	US 2001819214	A	20010328	200408	E

Priority Applications (no., kind, date): US 1999333231 A 19990614; US 2001819214 A 20010328

Patent Details						
Patent Number	**Kind**	**Lan**	**Pgs**	**Draw**	**Filing Notes**	
US 20010016353	A1	EN	8	2	Division of application	US 1999333231

Alerting Abstract ... and at least one phosphate ceramic precursor; heat treating the organic textile to oxide the **fabric** and **form** the biocompatible, bioresorbable **ceramic** green **body**; and sintering the biocompatible, bioresorbable ceramic, to yield resorbable hard tissue scaffolds... ... or animal tissue, such as bone or cartilage. These scaffolds are useful as implant materials **for** the **replacement** of defects or hollow portions of hard tissue resulting from external injury or surgical removal... **Technology Focus** ...INORGANIC CHEMISTRY - Preferred Method: The phosphorous source consists of triethyl phosphate, triethylphosphite, alkoxides of **phosphorus**, phenyl dichlorophosphine, phenyl dichlorophosphate, H3PO4, H3PO4 hydrates, H3PO3, P2O5, H4P2O7 or combinations of these. The... **Extension Abstract** Original Publication Data by AuthorityArgentina**Publication No.** ...**Original Abstracts:**template with metal and phosphate ceramic precursors, heat treating the impregnated fabric to decompose the **fabric** to **form** a ceramic **green** body, and sintering **the** ceramic **green** body to **form** the scaffold which has a form analogous to **that** of the **fabric** template. Impregnating **the fabric** may be by soaking the fabric in a solution or sol containing the ceramic **precursors**. The **fabric** may be **formed** into a laminate prior to **heat** treating. Sintering **results** in **fibers** of the **fabric** being cross-sintered with one **another** to **form a** three-dimensional scaffold structure having controlled pore size and distribution. The scaffold may be treated... ...**Claims:**at least one phosphate ceramic precursor,b) heat treating the organic textile to oxidize the **fabric** and **form** the biocompatible, bioresorbable ceramic green body, andc) sintering the **biocompatible**, bioresorbable **ceramic**, to yield resorbable hard tissue scaffolds... ... at least one phosphate ceramic precursor,b) heat treating the organic fabric to oxidize the **fabric** and **form** a **biocompatible**, bioresorbable ceramic green body, andc) sintering the biocompatible, bioresorbable ceramic green body, thereby forming said resorbable hard tissue scaffold.

WPI Acc no: 1999-167385/199914
XRAM Acc no: C1999-048923

Biologically active glass-based cell growth substrate - containing biodegradable polymer, useful in prostheses, e.g. for filling bone defects, or in vitro applications

Patent Assignee: US BIOMATERIALS CORP (USBI-N)
Inventor: FOSMOE A; LATORRE G; LEE S; ZHONG J

Patent Family (2 patents, 80 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 1999007777	A1	19990218	WO 1998US16470	A	19980807	199914	B
AU 199888251	A	19990301	AU 199888251	A	19980807	199928	E

Priority Applications (no., kind, date): US 199755059 P 19970808

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
WO 1999007777	A1	EN	24	0		
National Designated States,Original	AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW					
Regional Designated States,Original	AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW					
AU 199888251	A	EN			Based on OPI patent	WO 1999007777

...**containing biodegradable polymer, useful in prostheses, e.g. for filling bone defects, or in vitro applications Alerting Abstract** ...bioactive glass is dispersed, where the glass comprises silicon dioxide, sodium oxide, calcium oxide and **phosphorus pentoxide** and the combination of polymer and glass provides a three dimensional matrix suitable for cell... **Documentation Abstract** ...bioactive glass is dispersed, where the glass comprises silicon dioxide, sodium oxide, calcium oxide and **phosphorus pentoxide** and the combination of polymer and glass provides a three dimensional matrix suitable for cell... ... the form of a melt-derived glass, a sol-gel derived composition, a sintered glass **derived** composition or spun **fibres**.**Documentation Abstract Image** Original Publication Data by AuthorityArgentina**Publication No.** ...**Original Abstracts:**for growing tissue, including bone, are disclosed. The glass is formed from oxides of silicon, **phosphorus**, **sodium**, and calcium, and is dispersed within a porous biodegradable polymer to form a three dimensional...

Dialog eLink: Order File History
27/3,K/6 (Item 5 from file: 350)
DIALOG(R)File 350: Derwent WPIX

0007900214
WPI Acc no: 1996-261404/199627
XRAM Acc no: C1996-082773
XRPX Acc No: N1996-219912

Biocompatible composite materials used e.g. as implantable bone defect substitutes - comprise 1st absorbable phase comprising polymer formed from aliphatic lactone monomers and 2nd resorbable phase comprising osteo-inductive or -conductive calcium-contg. cpd

Patent Assignee: ETHICON INC (ETHI); JOHNSON & JOHNSON (JOHJ)
Inventor: CHEN C C; COOPER K; SCOPELIANOS A; SCOPELIANOS A G

Patent Family (8 patents, 10 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
EP 714666	A1	19960605	EP 1995308600	A	19951129	199627	B
AU 199537953	A	19960606	AU 199537953	A	19951120	199630	E
CA 2164045	A	19960531	CA 2164045	A	19951129	199638	E
JP 8215299	A	19960827	JP 1995332566	A	19951129	199644	E
ZA 199510147	A	19970827	ZA 199510147	A	19951129	199740	E
US 5679723	A	19971021	US 1994346652	A	19941130	199748	E
			US 1995416389	A	19950406		
			US 1996710691	A	19960919		
BR 199505580	A	19971104	BR 19955580	A	19951130	199751	E
US 5747390	A	19980505	US 1994346652	A	19941130	199825	E
			US 1995416383	A	19950406		
			US 1996603570	A	19960220		

Priority Applications (no., kind, date): US 1994346652 A 19941130; EP 1995308600 A 19951129

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
EP 714666	A1	EN	17	1	
Regional Designated States,Original	DE FR GB IT				

CA 2164045	A	EN				
JP 8215299	A	JA	21			
ZA 199510147	A	EN	57			
US 5679723	A	EN	10	1	Division of application	US 1994346652
					Continuation of application	US 1995416389
BR 199505580	A	PT				
US 5747390	A	EN			Division of application	US 1994346652
					Continuation of application	US 1995416383

Alerting Abstract ...composites may be moulded into implantable medical devices such as bone defect substitutes, bone waxes, **bone** regenerating substitutes and cartilage **replacements**. The composites may be **extruded** into **fibres** which can **form** yarn or **meshes** for reinforcing devices. Liq. **forms** of the composites are used to coat biocompatible substrates. The composites may also be moulded... **Documentation Abstract** ...a) an absorbable substrate selected from woven meshes, nonwoven meshes, knitted meshes, yarns and **fibres** of absorbable polyesters **formed** from aliphatic lactone monomers selected from p-dioxanone, trimethylene carbonate, epsilon-caprolactone, glycolide, lactide (l, d, dl, meso), delta-valerolactone, beta-butyrolactone, epsilon-decalactone, 2,5-diketomorpholine, pivalolactone, alpha,**alpha**-diethylpropiolactone, ethylene carbonate, **ethylene** oxalate, 3-methyl-1,4-dioxane-2,5-dione, 3,3-diethyl-1,4-dioxan... ... composites may be moulded into implantable medical devices such as bone defect substitutes, bone waxes, **bone** regenerating substitutes and cartilage **replacements**. The composites may be **extruded** into **fibres** which can **form** yarn or **meshes** for reinforcing devices. Liq. **forms** of the composites are used to coat biocompatible substrates.... ... calcium phosphate, hydroxyapatite, fluoroapatite, calcium sulphate, calcium fluoride, calcium oxide, silica, sodium oxide, and/or **phosphorus pentoxide** particle size 100-500 mum. (AB) **Documentation Abstract Image**

27/3,K/7 (Item 6 from file: 350)
DIALOG(R)File 350: Derwent WPIX

0004061821
WPI Acc no: 1987-162895/198723
XRAM Acc no: C1987-067763
Surgical bone repair cements for dental and medical applications - contg. bone substitute and water soluble, polyfunctional carboxylic acid
Patent Assignee: UNIV OF DAYTON (UYDA-N)
Inventor: BAJPAI P K

Patent Family (1 patents, 1 countries)							
Patent Number	**Kind**	**Date**	**Application Number**	**Kind**	**Date**	**Update**	**Type**
US 4668295	A	19870526	US 1985726868	A	19850425	198723	B

Priority Applications (no., kind, date): US 1985726868 A 19850425

Patent Details					
Patent Number	**Kind**	**Lan**	**Pgs**	**Draw**	**Filing Notes**
US 4668295	A	EN	4	0	

Surgical bone repair cements for dental and medical applications - Alerting Abstract ...2-10C carboxylic acid (III) per 100 pts. (II). (II) is (non)resorbable and is **beta-tricalcium phosphate**, hydroxyapatite, milled freeze dried bone or a synthetic Ca contg. material (Ca aluminates and phosphates or alumino-**calcium oxide-phosphorus pentoxide** ceramics). Pref. (II) has a particle size of less than 400 mesh. (I) may also... ...USE/ADVANTAGE - (I) can be used in orthopaedic, oral and maxillofacial **surgery** in making **bone** grafts, **bone** scaffolds, **bone replacements** or protheses. These materials may be non-, totally- or partially bioabsorbable. (I) is a fast... Original Publication Data by AuthorityArgentina**Publication No. Original Abstracts:**Surgical **bone repair** cements useful **in medical** and/or **dental applications** comprising a **bone substitute** such as **hydroxyapatite**, tricalcium phosphate or **aluminocalcium oxide**-phosphorous pentoxide **ceramic and** a polyfunctional carboxylic acid such as malic acid, alpha-ketoglutaric acid or citric acid as...

27/3,K/8 (Item 7 from file: 350)
DIALOG(R)File 350: Derwent WPIX

0004028206
WPI Acc no: 1987-126833/198718
Related WPI Acc No: 1983-18194K
XRAM Acc no: C1987-052790
XRPX Acc No: N1987-094822
Calcium phosphate fibre used in bone implants - has its surface (partially) coated with calcium phosphate cpd. e.g. hydroxy apatite
Patent Assignee: MITSUBISHI MINING & CEMENT CO (MISE)
Inventor: FUJISAWA T; FUKUDA Y; KOBAYASHI M; ONO M; TAGAI H; TAKEUCHI H

Patent Family (1 patents, 1 countries)							
Patent Number	**Kind**	**Date**	**Application Number**	**Kind**	**Date**	**Update**	**Type**

JP 62069823	A	19870331	JP 1981102213	A	19810702	198718	B
			JP 1986213773	A	19850924		

Priority Applications (no., kind, date): JP 1981102213 A 19810702; JP 1986213773 A 19850924

Patent Details					
Patent Number	**Kind**	**Lan**	**Pgs**	**Draw**	**Filing Notes**
JP 62069823	A	JA	7	0	

Alerting Abstract ...Calcium phosphate fibre has mol. ratio of Ca/P 0.6-1.7 and **CaO** + P2O5 more than 80 wt.% and a calcium phosphate cpd. in at least one section ... ...hydroxy apatite of the formula Ca10(PO4)6 (OH2) or Ca5(PO4)3 OH and **TCP**. They are pref. heated at 500-1350 deg.C. The hydroxy apatite powder is used with the fibre. The fibre is mfd. by melt-spinning calcium phosphate through nozzle to **form** calcium phosphate **fibre**. ... ...ADVANTAGE - The **fibre** is a bone **formation** accelerator. Calcium phosphate **fibre** has good affinity to living organism without contamination reaction and is used as filler material

27/3,K/9 (Item 1 from file: 155)
DIALOG(R)File 155: MEDLINE(R)

14224570 **PMID:** 11309786

Mechanical and histological evaluations of hydroxyapatite-coated and noncoated Ti6Al4V implants in tibia bone.

Chang C K; Wu J S; Mao D L; Ding C X
Open Laboratory for High Temperature Materials and High Temperature Tests, Shanghai Jiao Tong University, P.R. China. ckchang@mail1.sjtu.wsu.cn
Journal of biomedical materials research (United States) Jul 2001 , 56 (1) p17-23 ,
ISSN: 0021-9304--Print 0021-9304--Linking **Journal Code:** 0112726
Publishing Model Print
Document type: Comparative Study; Evaluation Studies; Journal Article; Research Support, Non-U.S. Gov't
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
...the as-received coatings consisted mainly of amorphism and HAP phase. Other phases such as **TCP** and **CaO** were identified due to thermal changes of HAP particles in plasma flame. SEM micrographs showed... ...attachment between HAP coating and newly

formed bone. However, noncoated implants were separated from newly **formed** bone by **fibrous** tissues. Ti ions were found to be released into the surrounding environment after long time... (

Dialog eLink: USPTO Full Text Retrieval Options
27/3,K/10 (Item 2 from file: 155)
DIALOG(R)File 155: MEDLINE(R)

14174044 **PMID:** 11246952
Structure and immersion behavior of plasma-sprayed apatite-matrix coatings.

Ding S J; Su Y M; Ju C P; Lin J H
Institute of Dental Materials, Chung-Shan Medical and Dental College, Taichung, Taiwan, ROC.
Biomaterials (England) Apr 2001 , 22 (8) p833-45 , **ISSN:** 0142-9612--Print 0142-9612--Linking **Journal Code:** 8100316
Publishing Model Print
Document type: In Vitro; Journal Article; Research Support, Non-U.S. Gov't
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
...properties of a series of plasma-sprayed coatings from sinter-granulated powders fabricated from SiO2, **CaO**, P2O5 and Na2O-containing HA composite powders on Ti-6Al-4V substrate were reported. The... ...showed that sinter-granulated apatite-matrix powders were irregularly shaped and appeared quite similar. XRD **patterns** showed that during **fabrication** of the powders, P2O5 and SiO2 enhanced the decomposition of HA structure, while **CaO** and Na2O did not. Reasonably high bond strengths (45-50 MPa) were obtained from all... ...different phases. When immersed in SBF, the intensities of such phases as alpha- and beta-**TCP** in all coatings decreased with immersion time and an apatite precipitation took place on all coating surfaces. The immersed SiO2- and **CaO**-containing HA (HSC) coating had the highest rate of apatite precipitation among all coatings. The... ...HSC-immersed solution reached its maximal Ca concentration the earliest, while the HSCP (HA, SiO2, **CaO** and P2O5)-immersed solution reached its maximum the latest. (

Dialog eLink: USPTO Full Text Retrieval Options
27/3,K/11 (Item 1 from file: 5)
DIALOG(R)File 5: Biosis Previews(R)

16152998 **Biosis No.:** 200100324837
Mechanical and histological evaluations of hydroxyapatite-coated and noncoated Ti6A14V implants in tibia bone

Author: Chang C K (Reprint); Wu J S; Mao D L; Ding C X
Author Address: Open Laboratory for High Temperature Materials and High Temperature Tests, Shanghai Jiao Tong University, 1954 Huashan Road, Shanghai, 200030, China** China
Journal: Journal of Biomedical Materials Research 56 (1): p 17-23 July, 2001 2001
Medium: print
ISSN: 0021-9304
Document Type: Article
Record Type: Abstract
Language: English

Abstract: ...the as-received coatings consisted mainly of amorphism and HAP phase. Other phases such as **TCP** and **CaO** were identified due to thermal changes of HAP particles in plasma flame. SEM micrographs showed... ...attachment between HAP coating and newly formed bone. However, noncoated implants were separated from newly **formed** bone by **fibrous** tissues. Ti ions were found to be released into the surrounding environment after long time...

27/3,K/12 (Item 2 from file: 5)
DIALOG(R)File 5: Biosis Previews(R)

16015375 **Biosis No.:** 200100187214
Structure and immersion behavior of plasma-sprayed apatite-matrix coatings

Author: Ding S J; Su Y M; Ju C P; Chern Lin J H (Reprint)
Author Address: Department of Materials Science and Engineering, National Cheng-Kung University, 70101, Tainan, Taiwan**Taiwan
Journal: Biomaterials 22 (8): p 833-845 April, 2001 2001
Medium: print
ISSN: 0142-9612
Document Type: Article
Record Type: Abstract
Language: English

Abstract: ...properties of a series of plasma-sprayed coatings from sinter-granulated powders fabricated from SiO2, **CaO**, P2O5 and Na2O-containing HA composite powders on Ti-6Al-4V substrate were reported. The... ...showed that sinter-granulated apatite-matrix powders were irregularly shaped and appeared quite similar. XRD **patterns** showed that during **fabrication** of the powders, P2O5 and SiO2 enhanced the decomposition of HA structure, while **CaO** and Na2O did not. Reasonably high bond strengths (45-50 MPa) were obtained from all... ...different phases. When immersed in SBF, the intensities of such phases as alpha- and beta-**TCP** in all coatings decreased with

immersion time and an apatite precipitation took place on all coating surfaces. The immersed SiO2- and **CaO**-containing HA (HSC) coating had the highest rate of apatite precipitation among all coatings. The... ...HSC-immersed solution reached its maximal Ca concentration the earliest, while the HSCP (HA, SiO2, **CaO** and P2O5)-immersed solution reached its maximum the latest.
Registry Numbers: ...**calcium oxide**; ... ...**phosphorus pentoxide**;
Enzyme Commission Number:
DESCRIPTORS:
Chemicals & Biochemicals: ...**calcium oxide**--... ...**phosphorus pentoxide**--

27/3,K/13 (Item 1 from file: 972)
DIALOG(R)File 972: EMBASE

0078571476 **EMBASE/MEDLINE No:** 2001177618
Mechanical and histological evaluations of hydroxyapatite-coated and noncoated Ti6A14V implants in tibia bone

Chang C.K.; Wu J.S.; Mao D.L.; Ding C.X.
Open Lab. High Temp. Mat. High T., Shanghai Jiao Tong University, 1954 Huashan Road, Shanghai 200030, China
Author email: ckchang@mail1.sjtu.wsu.cn
Corresp. Author/Affil: Chang C.K.: Open Lab. for High Temp. Mat., Shanghai Jiao Tong University, 1954 Huashan Road, Shanghai 200030, China
Corresp. Author Email: ckchang@mail1.sjtu.wsu.cn

Journal of Biomedical Materials Research (J. Biomed. Mater. Res.) (United States) May 28, 2001 , 56/1 (17-23)
CODEN: JBMRB **ISSN:** 0021-9304
Item Identifier (DOI): 10.1002/1097-4636(200107)56:1<17::AID-JBM1063>3.0.CO;2-T
Document Type: Journal ; Article **Record Type:** Abstract
Language: English **Summary language:** English
Number of References: 15

...the as-received coatings consisted mainly of amorphism and HAP phase. Other phases such as **TCP** and **CaO** were identified due to thermal changes of HAP particles in plasma flame. SEM micrographs showed... ...attachment between HAP coating and newly formed bone. However, noncoated implants were separated from newly **formed** bone by **fibrous** tissues. Ti ions were found to be released into the surrounding environment after long time...
SECTION HEADINGS:
Biophysics, Bioengineering and Medical Instrumentation

Orthopedic Surgery

27/3,K/14 (Item 1 from file: 2)
DIALOG(R)File 2: INSPEC

06759967
Title: Interrelationshlp between bioceramics and mice osteoclast in culture
Author(s): Nall, B.[1]; Benghuzzi, H.[1]; Puckett, A.[1]; Parsell, D.[1]; Robert, B.[1]; Tucci, M.[1]
Affiliation(s):
[1] Univ. of Mississippi Med. Center, Jackson, MS, USA
Book Title: Proceedings of the 1997 16th Southern Biomedical Engineering Conference (Cat. No.97TH8270)
Inclusive Page Numbers: 279-82
Publisher: IEEE, New York, NY
Country of Publication: USA
Publication Date: 1997
Conference Title: Proceedings of the 1997 16 Southern Biomedical Engineering Conference
Conference Date: 4-6 April 1997
Conference Location: Biloxi, MS, USA
Conference Sponsor: Mississippi State Univ. Dept. Agricultural & Biological Eng. Univ. Mississippi Med. Center Dept. Restorative Dentistry/Biomater., Orthopaedic Surgery, Div. Continuing Health Professional Educ. IEEE/Eng. Med. & Biology Soc
Editor(s): Bumgardner, J.D. Puckett, A.D.
ISBN: 0-7803-3869-3
U.S. Copyright Clearance Center Code: 0 7803 3869 3/97/$10.00
Item Identifier (DOI): 10.1109/SBEC.1997.583285
Number of Pages: xviii+486
Language: English
Subfile(s): A (Physics)
INSPEC Update Issue: 1997-046

Abstract: ... this study was to investigate the effect of various biomedical ceramics such as tricalcium phosphate (**TCP**), hydroxyapatite (HA), and aluminum-calcium-**phosphorus oxide** (ALCAP) on the adherence and viability of mice osteoclast (OT) in vitro. The OT cells... ... standard laboratory procedures. Cells were plated in each micrometer-well pretreated with ceramic capsules (HA, **TCP** and ALCAP) and buffered control. At the end of 1, 2, 3 and 5 days... ... this experiment suggest that: (i) OT are capable of adhering to the surface of HA, **TCP** and ALCAP in an in vitro environment for over a 5 day period; (ii) Long... ... after contacting a cellular environment. This observation suggest that the material surface has been modified (**TCP**>HA=ALCAP). Information obtained from this study provided new insights on the interrelationship

between bioceramics...
Descriptors: **bone**; cellular biophysics; ceramics; prosthetics; **surgery**
Identifiers: ... mice osteoclast; culture; bone; surgical implantation; osteoclastic response; biomedical ceramics; tricalcium phosphate; hydroxyapatite; aluminum-calcium-**phosphorus oxide**; adherence; viability; adult male mice; micrometer-well; ceramic capsules; buffered control; cell number; biochemical analysis... ... inflammation; implantation site; 1 d; 2 d; 3 d; 5 d; Ca3(PO4)2; Al2O3-**CaO**-P2O5; Ca10(PO4)6(OH)2

27/3,K/15 (Item 1 from file: 144)
DIALOG(R)File 144: Pascal

14704017 PASCAL No.: 00-0379386
Crystallization and microstructure analysis of calcium phosphate-based glass ceramics for biomedical applications
YONG ZHANG; SANTOS J D
Laboratorio de Biomateriais, Instituto de Engenharia Biomedica (INEB),
Rua do Campo Alegre 823, 4150 Porto, Portugal; Departamento de Engenharia
Metalurgica e Materiais, Faculdade de Engenharia da Universidade do Porto
(FEUP), Rua dos Bragas, 4099 Porto, Portugal
Journal: Journal of non-crystalline solids, 2000, 272 (1)
14-21
Language: English

Calcium phosphate glasses and glass ceramics (**CaO**/P SUB 2 O SUB 5 =1.25 in molar ratio) modified by small amounts...

...By adding higher contents of Na SUB 2 O and TiO SUB 2 and using
CaO /P SUB 2 O SUB 5 =1.5-2.0, crystallization of beta -DCP and Ca SUB 3 (PO SUB 4) SUB 2 (beta -**TCP**), and the formation of a dense structure in the glass ceramics were obtained. The precipitation...

... formed after the soluble phases are dissolved in physiological media.
These glass ceramics with high **CaO**/P SUB 2 O SUB 5 ratio, modified by the above mentioned additives are expected to find use as implants for
bone replacement /regeneration and drug delivery carriers synergistically, because the soluble phases may act as drug delivery...

...English Descriptors: analysis; Microstructure; X ray diffraction; Differential thermal analysis; Scanning electron microscopy; Dispersive

spectrometry; Energy dispersion; **Phosphorus Oxides**; Calcium Oxides; Magnesium Oxides; Sodium Oxides; Titanium Oxides; Zirconium Oxides

...French Descriptors: Dispersion energie; Phosphore Oxyde; Calcium Oxyde; Magnesium Oxyde; Sodium Oxyde; Titane Oxyde; Zirconium Oxyde; Systeme **CaO** P2O5; Ca O P; Systeme **CaO** MgO Na2O P2O5; Ca Mg Na O P; Systeme **CaO** Na2O P2O5 TiO2; Ca Na O P Ti; Systeme **CaO** MgO Na2O P2O5 TiO2 ZrO2; Ca Mg Na O P Ti Zr

27/3,K/16 (Item 2 from file: 144)

DIALOG(R)File 144: Pascal

14416031 PASCAL No.: 00-0072784

Kinetics of thermal decomposition of hydroxyapatite bioceramics

CIHLAR J; BUCHAL A; TRUNEC M

Department of Ceramics, Institute of Materials Engineering, Technical University of Brno, Technicka 2, 616 69 Brno, Czech Republic

Journal: Journal of materials science, 1999, 34 (24) 6121-6131

Language: English

... 0.5. At temperatures between 1473 and 1758 K the hydroxyapatite was decomposed to alpha -**TCP**, H SUB 2 O and **CaO** . The decomposition of HOA started on the surface of the HOA ceramics. The rate of increase in the thickness of the reaction products (alpha -**TCP**) was described by the parabolic law. The kinetic analysis of the time dependence of HOA conversion to **TCP** by means of the J-M-A-J-K equation also showed that the thermal...

Spanish Descriptors: Biomaterial; Hidroxiapatito; Calcio Fosfato; **Fabricacion**; **Moldeo** por inyeccion; Sinterizacion; Descomposicion termica; Cinetica; Difraccion RX; Estudio experimental

27/3,K/17 (Item 1 from file: 23)

0006224760 IP Accession No: 200106-57-0873; 200105-C4-C-0275
Structure and immersion behavior of plasma-sprayed apatite-matrix coatings

Chern Lin, J H; Ding, S J; Su, Y M; Ju, C P National Cheng Kung University
Biomaterials (UK) , v 22 , n 8 , p 833-845 , Apr. 2001
Publication Date: 2001
Publisher: Elsevier Science Ltd. , Oxford Fulfillment Centre, P.O. Box 800 , Kidlington , Oxford , OX5 1DX
Country Of Publication: UK
Publisher Url: http://www.elsevier.com

Document Type: Journal Article
Record Type: Abstract
Language: English
ISSN: 0142-9612
File Segment: Metadex; Engineering Materials Abstracts

Abstract:
...a series of plasma-sprayed coatings from sinter-granulated powders fabricated from SiO sub 2 , **CaO**, P sub 2 O sub 5 and Na sub 2 O-containing HA composite powders... ...showed that sinter-granulated apatite-matrix powders were irregularly shaped and appeared quite similar. XRD **patterns** showed that during **fabrication** of the powders, P sub 2 O sub 5 and SiO sub 2 enhanced the decomposition of HA structure, while **CaO** and Na sub 2 O did not. Reasonably high bond strengths (45-50 MPa) were... ...different phases. When immersed in SBF, the intensities of such phases as alpha - and beta -**TCP** in all coatings decreased with immersion time and an apatite precipitation took place on all coating surfaces. The immersed SiO sub 2 - and **CaO**-containing HA (HSC) coating had the highest rate of apatite precipitation among all coatings. The... ...solution reached its maximal Ca concentration the earliest, while the HSCP (HA, SiO sub 2 , **CaO** and P sub 2 O sub 5)-immersed solution reached its maximum the latest.

27/3,K/18 (Item 2 from file: 23)

0005149376 IP Accession No: WCA108147
HYDRATION REACTIONS IN THE SYSTEM CaO-P2O5-SiO2-(H2OO)

Vanis, P; Odler, I Clausthal, Technical University
J.Am.Ceram.Soc. , v 79 , n 4 , p 1124-1126 , 1996
Publication Date: 1996

Document Type: Journal Article
Record Type: Abstract
Language: English
File Segment: Ceramics Abstracts/World Ceramic Abstracts
HYDRATION REACTIONS IN THE SYSTEM CaO-P2O5-SiO2-(H2OO)

Abstract:
Highly dispersed powders containing **alpha-tricalcium phosphate** as the main constituent, produced by a sol-gel process and subsequent heating to at...

Descriptors: Alpha tricalcium phosphate; Ammonium phosphate; Bioceramic; Biomaterial; Calcia; **Calcium oxide**; Chemical reaction; Compressive strength; Firing temperature; Hardening; Hardness; Hydration; Hydraulic properties; Hydroxyapatite; Mechanical properties; Paste; pH; **Phosphorus oxide**; **Phosphorus pentoxide**; Physical properties; Potassium phosphate; Powder synthesis; Reaction product; Setting; Silica; Silicon dioxide; Sodium phosphate; Sol...
Identifiers:
Subj Catg: ...QQ, Medical, **dental** and veterinary **application**
Material Class:

27/3,K/19 (Item 3 from file: 23)
DIALOG(R)File 23: CSA Technology Research Database

0004954851 IP Accession No: WCA106288
FORMATION OF HYDROXYAPATITE ON COMPOSITES IN CaO-P2O5-SiO2-Al2O3 SYSTEM BY HYDROTHERMAL TREATMENT

Aizawa, M; Ishikawa, T; Itatani, K; Howell, F S; Kinoshita, M; Kishioka, A Tokyo, Sophia University
Journal of the Ceramic Society of Japan , v 103 , n 10 , p 992-995 , 1995
Publication Date: 1995

Document Type: Journal Article
Record Type: Abstract
Language: English
ISSN: 0009-0255; 0009-0255
File Segment: Ceramics Abstracts/World Ceramic Abstracts
FORMATION OF HYDROXYAPATITE ON COMPOSITES IN CaO-P2O5-SiO2-

Al2O3 SYSTEM BY HYDROTHERMAL TREATMENT

Abstract:
Nine composite powders in the **CaO**-P2O5-SiO2-Al2O3 system were prepared by the sol-gel process. Although the as-prepared powders were amorphous, hydroxyapatite (HAp) and tricalcium phosphate (**TCP**) were formed after heat treatment at 800 to 1300 C. Anorthite (CaAl2Si2O8) was also formed... ...5 h. When this composite was hydrothermally treated at 160 C for 24 h, beta-**TCP** was changed into HAp to form a porous layer about 8 micron in thickness on...

Descriptors: Alumina; Aluminium oxide; Amorphous powder; Anorthite; **Beta tricalcium phosphate**; Biomaterial; Bulk density; Calcia; **Calcium oxide**; Calcium phosphate; Composite; Composition; Crystalline phase; Densification; Density; Fracture surface; Glass ceramic; Glass-ceramic; Heat treatment; Heating; Hydrothermal processing; Hydrothermal treatment; Hydroxyapatite; Layer thickness; Particle; Particle shape; Phase; Phase formation; **Phosphorus oxide**; **Phosphorus pentoxide**; Physical properties; Porous layer; Porous material; Powder; Powder preparation; Processing; Processing temperature; Processing time; Raw...
Identifiers:
Subj Catg: ...QQ, Medical, **dental** and veterinary **application**;
Material Class:

27/3,K/20 (Item 4 from file: 23)
DIALOG(R)File 23: CSA Technology Research Database

0004529692 IP Accession No: WCA091891
CERAMICS AND GLASS-CERAMIC MATERIALS FOR BONE IMPLANTS

Medvedev, E F All-Russian Sci.-Res.Inst.of Experimental Physics
Glass and Ceramics , v 50 , n 1/2 , p 81-85 , 1993
Publication Date: 1993
Publisher: Consultants Bureau , 233 Spring St. , New York , NY , 10013
Country Of Publication: USA
Publisher Url: http://www.wkap.nl

Document Type: Journal Article
Record Type: Abstract
Language: English
ISSN: 0361-7610; 0361-7610
File Segment: Ceramics Abstracts/World Ceramic Abstracts

Abstract:

...include materials with straight-through porosity, which will probably allow for the growth of collagen **fibres** and the **formation** of soft-bone matrix. A combination of bioinert and bioactive ceramics may prove to be...

Descriptors: Alumina; Aluminium oxide; Apatite; Artificial bone; Bioactive; Bioceramic; Biocompatibility; Biocompatible; Bioglass; Bioglass ceramic; Bioinert; **Biomaterial**; **Bone**; **Bone replacement**; **Bone** tissue; Calcia; Calcium oxide; Calcium phosphate; Collagen; Composite; Composition; Development; Glass; Glass ceramic; Glass-ceramic; Hydroxyapatite; Implant; Medical application; **Phosphorus oxide**; **Phosphorus pentoxide**; Porosity; Research; Review; Silica; Silicon dioxide; Sitall; Technical; Trend; Cis; Russia
Identifiers:
Subj Catg: ...QQ, Medical, **dental** and veterinary **application**;
Material Class:

27/3,K/21 (Item 5 from file: 23)
DIALOG(R)File 23: CSA Technology Research Database

0003646568 IP Accession No: WCA63663
HIGH STRENGTH BIOGLASS CERAMIC CONTAINING Ca2P2O7

F-H, Lin; M-H, Hon TAIWAN, NATIONAL CHENG KUNG UNIVERSITY
J.Aust.Ceram.Soc. , v 25 , n 1 , p 41-49 , 1989
Publication Date: 1989

Document Type: Journal Article
Record Type: Abstract
Language: English
File Segment: Ceramics Abstracts/World Ceramic Abstracts

Abstract:
The fabrication of a glass-ceramic, and its **application** as an artificial **bone** prosthetic biomedical material are discussed. This new bioglass ceramic had a composition of 12% Na2O...

Descriptors: Artificial **bone**; Bioceramic; Biocompatibility; Bioglass ceramic; Biomedical **application**; Cell culture; Chemical bond; Chemical composition; Compatibility; Compressive strength; Crystal; Crystal phase; Crystal size; Data; **Design**; **Fabrication**; Flexural strength; Fracture toughness; Glass; Glass ceramic; Glass phase; Glass-ceramic; Mechanical properties; Microstructure; Nucleation; Phase separation; Prosthetic; Silicate glass; Technical; Testing; Calcium oxide; Calcium pyrophosphate; **Phosphorus oxide**; **Phosphorus pentoxide**; Silica; Silicon dioxide; Sodium calcium silicate; Sodium oxide; Taiwan

Identifiers:
Subj Catg: ...QQ, Medical, **dental** and veterinary **application**; ... ...MLP, Medical, **dental** and veterinary **application**
Material Class:

27/3,K/22 (Item 1 from file: 35)
DIALOG(R)File 35: Dissertation Abs Online

01690968 ORDER NO: AAD99-19909

SYNTHESES OF NEAR-NET SHAPED MONOLITHIC HYDROXYAPATITE AND HYDROXYAPATITE-ASTM F75 COMPOSITES BY THE OXIDATION OF SOLID METAL-BEARING PRECURSORS (ASTM F75)

Author: SAW, EADEN
Degree: PH.D.
Year: 1999
Corporate Source/Institution: THE OHIO STATE UNIVERSITY (0168)
Source: Volume 6002B of Dissertations Abstracts International.
PAGE 794 . 221 PAGES

A novel powder-metallurgical route was used to **fabricate** near net- **shaped** hydroxyapatite, $Ca_{10}(PO_4)_6(OH)_2$... ...phase-pure HA. The reduction in solid volume associated with the oxidation of calcium (Vm[**CaO**] < Vm[Ca]) was offset by the increase in solid volume associated with the conversion of **CaO** and Ca2P2O7</SUB> discussed.

Planar reaction couples and powder compacts of **CaO**-**TCP** were prepared to study the kinetics for HA formation from **CaO**+**TCP**. Pt strips were used in the planar reaction couples as inert markers. These reaction couples... ...compact analyses fits Carter's model, which indicated that the rate of HA conversion from **CaO** and **TCP** is limited by solid state diffusion of Ca 2+ and/or OH